**IT Applications Unit 3, AOS 1, Online Communities**

**Complete the following, from pgs, 18-28:**

**NETWORK HARDWARE AND SOFTWARE**

**Network Operating Systems**

1. **Describe the role of the network operating system.**

Network operating software is software that controls traffic on the network and defines how device will communicate with each other.

1. **What are the typical tasks of network server software?**

Network server software is installed on the network servers and performs these tasks:

* Controlling file access
* Managing print queues
* Keeping track of users through user IDs and passwords
* Authenticating access to network servers
* Maintaining a log of network usage and problems

1. **What is the role of network client software?**

Network client software is installed on each workstation and performs these tasks.

* Establishes a connection, through the NIC, between the workstation and other devices on the network.
* Use the NOS to create their own data packets and transmit them at appropriate times to ensure successful communication.

1. **List the 3 providers of network operating systems.**

* Apple
* Novell
* Windows

**Web client software**

1. **List the typical client software**

* Web browsers: Allow users to view pages on the internet and manages the link used to jump for one document to the next. (E.g. Internet Explorer, Safari, Firefox)
* Electronic mail: (email) are applications that operate over a network such as the internet or an intranet. (E.g. Windows Live Mail, Outlook Express)
* Video conferencing: Allows the transmission of audio and video signals over the internet. (E.g. Skype)
* Instant messaging: Allows real time exchange of messages and files between online users of a network. (E.g. Windows Live Messenger)

**Software for setting up websites**

* 1. **Describe the role of http protocol.**

The http (Hypertext Transfer Protocol) is a standard used for transmitting and receiving information over the internet. All servers and computers on the internet must follow the request and response procedure established in the http protocol so that the sending and receiving of information flows easily and quickly between servers and clients. This protocol is used to access pages that are written in hyper text mark up language (html).

* 1. **What is the role of web server software?**

Webserver software provides content using the http protocol. The content is usually in the form of html documents, images or other recourses. Examples of web server software include Apache and Microsoft Internet Information Services (IIS).

* 1. **What is the role of a proxy server?**

The role of a proxy server is to hide a client from the rest of the internet and makes it anonymous to the web server. It also acts as a retrieval system of internet pages and can cache web pages. It can restrict access to certain pages and also track users’ activities.

* 1. **What are the advantages of using a proxy server?**

A proxy server can speed up internet use by caching internet pages so that if a client requests an internet page from a website that has previously been sent to the proxy server, the proxy server will have that page stored in its cache and source it from there rather than the server. This means the proxy servers doesn’t have to reconnect with the website and this means there is less demand on the server and the client receives the page much faster.

* 1. **Describe the role of the following software:**

1. **SMTP**

Simple Mail Transfer Protocol (SMTP)is used on electronic mail servers to handle the sending and receiving of client emails.

1. **POP3**

A Post Office Protocol (POP3) server is used to store messages.

1. **FTP**

File Transfer Protocol (FTP) software enables the exchange of files between computers on the internet.

1. **Web software applications**

Web software applications are programs designed for use on a website and include blogging software, forums and wikis.

**Cross-platform web software**

1. **What is meant by a Cross-platform application? List egs.**

A platform refers to the operating system and hardware architecture that a computer uses.

A cross platform application uses an execution engine and complier with libraries so that it runs identically on all machines. Examples of cross platform applications used in creating websites are Flash and Java.

1. **What is adobe flash?**

Adobe Flash is a software tool that enables website developers to combine interactive content with text, three dimensional graphics, audio and video.

**Network Hardware**

**Describe the characteristics and role of the following network hardware devices:**

* 1. **Network Interface Card:**

A network interface card is a computer chip that is in the mother board of a computer allowing it to connect to a network.

* 1. **Wireless Access Point:**

A wireless access point (WAP) is a central communications device that allows computers and devices to transfer data wirelessly to a wired network.

* 1. **Switches:**

A switch is a device that stores the address of every device down each wire leading from the switch. It allows simultaneous communication between different devices.

* 1. **Routers:**

A router is a communications device that allows several remote LANs to connect over a WAN, or to join a number of LAN’s into one big LAN. A user on one LAN can access resources on other LAN through a router as if they were on the local LAN. Routers communicate with each other to provide information that allows them to determine the most efficient route to send a packet through a complex network of LAN’s.

* 1. **Modems:**

A modem is a communications device that converts a computers digital signal into an analogue signal. A dial up modem is used with a standard telephone line.

**For each of the following modem types, in a table indicate the following:**

|  |  |
| --- | --- |
| **MODEM** | **DOWNLOAD SPEED** |
| **Dial up modem** | 56kbps |
| **ADSL** | 8mbps |
| **ADSL 2 +** | 20mbps |
| **Broadband Cable** | 30mbps |

1. **How does a digital modem differ from a dial-up modem?**

Dial-up modems are only connected to the Internet when they've called in to your service provider. DSL and cable connections, on the other hand, are typically always on. DSL is always digital, but there are both digital and analog cable Internet modems.